

PERSPECTIVES ON ACCESS TO SUNLIGHT

"Solar energy is one of the most exciting dimensions of my Ministry's work. By initiating discussion of the legal aspects of solar use, I hope we can help push back the frontiers of renewable energy development."


Reuben Baetz,  
Minister.

May, 1978.



## TABLE OF CONTENTS

|                                       | <u>Page</u> |
|---------------------------------------|-------------|
| Summary                               | i           |
| Introduction                          | 1           |
| Definitions                           | 2           |
| I Existing Law of Light in Ontario    | 3           |
| Nuisance                              | 3           |
| Easements                             | 4           |
| Covenants                             | 5           |
| Airspace                              | 6           |
| Trespass                              | 7           |
| II Potential Mechanisms               | 8           |
| Principles                            | 10          |
| III Private Agreement                 | 14          |
| IV Doctrine of Ancient Lights         | 19          |
| V Prior Appropriation                 | 22          |
| VI Restrictive Covenants              | 25          |
| VII Solar Zoning                      | 31          |
| VIII Shade Control                    | 43          |
| IX Site Certification                 | 47          |
| X Municipal Acquisition               | 54          |
| XI Natural Solar Rights               | 57          |
| XII Further Review                    | 58          |
| Appendix I - Jurisdiction             | 59          |
| Appendix II - Orientation and Shading | 62          |
| Bibliography                          | 67          |
| Footnotes                             | 70          |
| Comment Sheet                         | 89          |



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## PERSPECTIVES ON ACCESS TO SUNLIGHT: A SUMMARY

### INTRODUCTION

To many concerned about our diminishing energy resources, solar energy holds great promise.

While the sun may never supply the majority of our energy needs, its long-term potential for supplementing conventional energy sources could be considerable. As fossil fuels become scarcer, and more expensive, the attractiveness of solar energy increases.

For the development of solar energy, action is needed on many fronts. Development of appropriate technology and encouragement of a solar industry is being assisted by the Ontario Government's solar program and is already well advanced.

However, one important issue -- solar access -- has yet to be addressed.

Even the best solar collector is useless without sunlight.

The purpose of the Ministry of Energy's working paper is to stimulate discussion about solar access and its potential impact on land use in the light of both the needs of solar users and the legitimate expectations of their neighbours.

The paper contains an outline of the existing law in this area and of several potential mechanisms for the protection of solar access in Ontario.

EXISTING LAW

The law of Ontario does not protect solar access for most urban landowners since there is no automatic right to the light which crosses the property of others. A landowner is entitled only to prevent obstruction of the airspace vertically above his property. The erection of new buildings is generally considered to be more important than the competing desire for unobstructed light and air.

It is possible under existing law for neighbours to agree in writing not to block one another's sunlight. At best, however, such agreements are cumbersome, expensive and legally complex.

Today, an urban solar user in Ontario is generally unable to obtain legally secure access to sunlight.

## POTENTIAL MECHANISMS

### Principles

Protection of access to the sun should be discussed with certain principles in mind. For example:

1. The need of one party for solar energy must be balanced against the inconvenience and restrictions which this might cause his neighbours.
2. Potential solar users should receive timely assurance of adequate sunlight, and should clearly understand the nature and extent of their rights.
3. The legal process involved should not be unnecessarily expensive, time consuming or complex.
4. Solar access should be integrated with municipal planning, but should not permanently freeze land use, as urban conditions are likely to change over the next 10 or 20 years.
5. Flexibility is essential to take account of differences in climate and changes in technology.



Some of the options or potential mechanisms for legal reform (described more fully in the working paper) are:

#### Private Agreement

This could be the simplest means but now has limitations. However, if the law recognized solar access as a property interest which could readily be transferred, neighbours could agree not to obstruct one another's sunlight.

Such agreements would have the maximum of flexibility and the minimum of government intervention.

#### Doctrine of Ancient lights

Many people have heard of the traditional "right to light" by which one landowner could restrain his neighbour from obstructing his sunlight if he had used that sunlight continuously for twenty years.

In Ontario, this right was abolished in 1880. Since a long period of use is required to establish it, reviving this right would not greatly assist solar users.

#### Restrictive Covenants

Restrictive covenants restrict an owner's use of his land for the benefit of his neighbour. Although Ontario law already recognizes such agreements, they could be made more attractive for potential solar users.



Between or among individuals, restrictive covenants are at present expensive and difficult to enforce. However, they are common in new subdivisions and they could be tailored to protect access to sunlight by restricting building height and vegetation. They are well understood by municipal officials and the real estate industry.

### Solar Zoning

Zoning is a common and well understood means of land use planning. It is public, responsible to local needs, and combines flexibility with uniformity within a prescribed area.

Solar zoning may become the principal long-term tool for the protection of solar access. However, it has limited scope under current Ontario law.

In solar zoning, municipalities would define zones in which solar use was to be encouraged. Within such zones, the height of buildings and vegetation could be controlled; setbacks and other restrictions could be relaxed.

"Shade control" by-laws could protect solar users from the shade caused by vegetation or secondary structures such as signs.

Other innovative approaches to protection of solar rights may be feasible within municipal site plan by-laws used to control large developments.

Solar zoning would be based on energy statements in the municipal official plan.

### Certification of Solar Sites

Unlike zoning, a municipal permit system could grant solar access to individual buildings.

However, certification would be costly and administratively complex.

### CONCLUSION

The working paper attempts to evaluate and compare these and other legal options for the protection of solar access. Ultimately, one or more may be adopted in Ontario. Each, however, has both benefits and costs, and we invite you to participate in the process of selection by sending us your comments. A comment sheet is attached to the working paper (p.89) for your convenience.

PERSPECTIVES ON ACCESS TO SUNLIGHTINTRODUCTION

To many of those concerned with our energy supply, solar energy is the wave of the future.

While the sun may never supply all our energy needs, its long-term potential for supplementing conventional energy sources, could be considerable. As fossil fuels become scarcer, and more expensive, the attractiveness of solar energy increases.

To create a favourable environment for the development of solar energy, action is needed on many fronts. Development of appropriate technology and encouragement of a solar industry is being assisted by the Ontario Government's solar program and is already well advanced.

However, one important issue -- solar access -- has yet to be addressed.

Even the best solar collector is useless without sunlight.

The purpose of this working paper is to stimulate discussion of the importance of solar access and of its potential impact on land use, in the light of both the needs of solar users and the legitimate expectations of their neighbours. The paper contains an outline of the existing law in this area, and of several potential mechanisms for the protection of solar access in Ontario.

### Definitions

For the purposes of this paper, a "solar right" is a "legally enforceable right to a reasonable proportion of the natural, unobstructed flow of direct solar radiation to a solar collector."<sup>1,2</sup>

"Solar collector" refers to a surface which is part of an integrated system specifically designed to use solar radiation as a source of significant quantities of energy to perform useful functions. However, the paper's primary focus is on space and water heating, which are closest to achieving cost-effectiveness.

"Solar user" refers to one or more persons using a solar collector for residential, industrial or commercial purposes.



## (I)

EXISTING LAW OF LIGHT IN ONTARIO

The present law affecting access to sunlight in Ontario falls into several legal categories: nuisance, easements, covenants, airspace, and trespass. This section briefly outlines each of these categories.

Nuisance

There is no "natural" right to light across the property of others, in the sense of an automatic entitlement whose infringement is a legal wrong (tort).<sup>3</sup> Rights to light are not ordinarily part of the ownership of land, but must be separately acquired.

Under the law of nuisance, landowners may generally prevent, or be compensated for, unreasonable interference with their use and enjoyment of their land, where the harm caused by the interference would be substantial.<sup>4</sup> Characterization of an interference as "unreasonable" generally depends upon a decision that the harm caused is greater than the utility of the conduct causing the harm.<sup>5</sup>

However, interference with light has never been judicially characterized as unreasonable (i.e. as an actionable nuisance), where the obstructing structure serves any useful purpose. English, Canadian and American courts generally hold that the erection of new buildings is a more important public and private interest than the competing desire for unobstructed light and air to existing buildings.<sup>6</sup> In other words, the courts assume that the benefits of any useful purpose to which land is put outweigh the harm caused by obstruction of light in all cases.<sup>7</sup>

Thus, at common law, every landowner may build on his land so

as to completely block the access of light to his neighbours' windows (or solar collector).<sup>8</sup> Only where an obstruction is motivated entirely by spite and serves no useful purpose, have some American courts given a remedy for obstruction of light<sup>9</sup> and this, in practice, has been extremely difficult to prove.

Even in cases of expropriation in which affected landowners are entitled to receive compensation for the "injurious affection" of their land,<sup>10</sup> there are no reported Canadian cases of any award for the loss of sunlight. This is surprising because analogous losses of amenities such as summer shade have been found compensable<sup>11</sup> and because land with ample light and air would be expected to command a higher market price than land which is generally shadowed.<sup>12</sup>

However, compensation for interference with sunlight has been granted as an item of injurious affection in other jurisdictions such as the United States and Japan.<sup>13</sup>

### Easements

The only "right to light" at common law accrues through acquisition of separate "easements of light".<sup>14</sup> Such easements can prevent a neighbouring landowner from making any use of his land which would block the light to one's windows.<sup>15</sup> However, virtually all such easements must be expressly created in writing by the owner of the restricted land and, therefore, are not common.<sup>16</sup>

However, both expressed and implied easements for light differ significantly from a desirable "solar right".<sup>17</sup> First, a traditional easement protects only such light as penetrates a defined aperture in a building, primarily intended to admit light to the interior, such as a window or skylight; it cannot be used to protect the general incidence of sunlight onto land or a building, or through other types

of apertures, such as doorways.<sup>18</sup> It is unlikely that most solar collectors are qualifying apertures.

Second, easements protect only that amount of light which is essential for the enjoyment of a building according to the "ordinary notions of mankind", i.e. for ordinary room lighting.<sup>19</sup> Even if a building is used for a purpose which requires an extraordinary amount of light, such as solar heating, it does not breach the easement to prevent that amount of light from reaching the building, provided that enough is left for ordinary requirements.<sup>20</sup>

Third, easements of light only restrain the servient (neighbouring) owner from actively blocking the light. They cannot require him to expend money or effort, such as in trimming trees, in order to protect the solar user's sunlight.<sup>21</sup>

Fourth, easements of light can, for practical purposes, be lost by substantial changes in the size or location of the protected aperture. What is protected is only that light which would have entered the original aperture had it not been altered.<sup>22</sup> If the alterations render it impossible to determine the extent to which the light which would have entered the old aperture is received by the new, the easement ceases to exist.<sup>23</sup>

Because of these and other obstacles imposed by the law of property, and because of the traditional judicial unwillingness to extend the categories of "negative easements", such as easements for light,<sup>24</sup> it is, at best, doubtful whether the easements for light now recognized by the law of property could, in fact, be used to protect solar rights.

### Covenants

Covenants are agreements between individuals. Generally, they do not "run with the land", that is, affect future

owners of land, unless the new owners so agree. However, a special class of covenants, known as restrictive covenants, can "bind the land" if they meet certain prescribed conditions. Under these conditions, restrictive covenants can be used as a mechanism to limit the use of property in order to protect access to a solar collector (e.g., to prevent construction above a specified height, or the planting of vegetation in specified locations).

If acquired from individual neighbours, their key disadvantage for solar users are their expense and difficulty of enforcement (see Ch. III below). However, their flexibility offers many advantages when used in developing new areas (see Ch. VI).

### Transfers of Airspace

"Airspace" may be defined as a segment of land (or space) horizontally separated from the surface. If a landowner were permitted to transfer ownership of the unoccupied airspace above his property, a solar user could acquire the airspace above his neighbour's lot and thereby ensure that no obstruction to the passage of light was erected.

However, while property interests in airspace have been recognized in the United States, e.g., to authorize the construction of office buildings over railway terminals,<sup>25</sup> and in the statutes of British Columbia,<sup>26</sup> it is uncertain whether unoccupied airspace is capable of ownership in Ontario.<sup>27</sup> Although purported conveyances of property interests in airspace have occurred,<sup>28</sup> their validity has never been established. Only personal rights to the use of airspace are clearly transferable, and these may not provide a solar user with secure protection (see page 15).



## Trespass

The only general "right to sunlight" which exists in Ontario today is a landowner's right to control the air space located vertically above the land surface which he owns. "Cujus est solum, ejus est usque ad coelum et ad infernos" (He who owns the soil also owns to the heavens and to the depths).<sup>29</sup> Thus, he has a legal right to prevent interruption of whatever sunlight falls vertically upon his land, through the law of trespass to real property,<sup>30</sup> but not to any sunlight which passes through air space above the property of others.

Unfortunately, at Canadian latitudes, no sunlight ever falls from directly overhead and the number of properties crossed by a ray of sunlight below the height of potential obstructions increases in the winter, when the demand for solar energy for space heating would be highest. Thus, the law of light in Ontario is inadequate to protect solar access for any except large landowners, such as universities, who can site their solar equipment far from their southern property boundary.

## (II)

POTENTIAL MECHANISMS

Secure access to sunlight therefore depends upon new mechanisms for the creation and protection of solar rights. Some writers<sup>31</sup> have suggested that willing courts could adapt traditional judicial remedies, such as nuisance, for this purpose but such an approach would be, at best, fragmented and haphazard.

There are at least nine potential mechanisms for protecting legal access to sunlight. With the partial exceptions of restrictive covenants and solar zoning, all would require provincial legislation, either to directly create solar rights or to authorize municipalities or private parties to do so.

1. A solar user could acquire "solar rights" privately by agreement with other property owners. (Ch. III)
2. Solar users could acquire solar rights by prescription, that is, by virtue of length of use (Doctrine of Ancient Lights). (Ch. IV)
3. By analogy to resource law, solar users could acquire a right to sunlight upon its "appropriation" for a "beneficial use". (Ch. V)
4. Developers could protect solar access to all, or a specified number, of lots of newly-developed tracts by careful layout and building design, coupled with appropriate restrictive covenants. (Ch. VI)

5. Municipalities could pass zoning by-laws to minimize the shadows cast by new construction in defined "solar zones". (Ch. VII)
6. Solar users could automatically acquire an "easement of necessity" over neighbouring properties upon the construction of their collector. This right would be subject to pre-existing obstructions.

One variant of this approach is a "shade control law", affecting only vegetation, signs and other structures of limited economic importance. (Ch. VIII)

7. Municipalities or other bodies could certify locations for solar collectors upon application by a proposed solar user. Certified locations would be protected by restrictions on neighbouring properties. (Ch. IX)
8. Municipalities or other bodies could require or expropriate sufficient rights to ensure solar access to collectors. (Ch. X)
9. All landowners in Ontario could be guaranteed a statutory right of solar access except where shadowed by existing obstructions or by those in prescribed (e.g. high-rise) areas. Persons wishing to erect any structure which would interfere with the solar access of any landowner would have to compensate that landowner for the loss of his solar right. (Ch. XI)

These potential mechanisms are discussed in order in the following chapters.

## PRINCIPLES

In selecting one or more mechanisms for the protection of solar access and incorporating them into legislation, a number of factors must be taken into account.

### 1. Timeliness

In order to encourage solar use, potential solar users or builders should be able to obtain assurance of their "right to light" without acquiring solar equipment, during the key period when their decision is made whether or not to invest in its use. Secure and timely legal solar access will be especially important in obtaining financing.

### 2. Cost

It should not be too expensive for a potential user to obtain a solar right. The high first cost of solar equipment is already the major barrier to its use and this must not be exacerbated by a costly legal procedure.

### 3. Delay

Excessive delay in the process of obtaining a solar right would also be a barrier to the spread of solar energy, especially to speculative builders who might otherwise incorporate solar equipment into new homes.

### 4. Simplicity

The mechanism of obtaining a solar right should be clear and comprehensible and should not be excessively onerous to administer, or the complexity of the process would itself be a barrier to solar use.



5. Certainty

The nature and extent of the solar right should be clear and comprehensible so that the size and location of the solar equipment and back-up systems may be properly planned. Neighbouring landowners must also be able to ascertain the exact impact of the right upon them.

6. Amount

The solar right should protect adequate exposure to sunlight at appropriate times, or the efficiency and cost effectiveness of the solar collector will be impaired. In particular, obstruction of sunlight might force storage, collector area and/or back-up systems to be larger and more expensive than they would with optimum exposure to sunlight.

7. Fairness

The need of one party for solar energy should be balanced against the inconvenience and restrictions which it would cause to his neighbours. The value to society of solar use, tree preservation, uniform setbacks, etc., should be weighed, as well as the private gain or loss of each party. Access to solar energy should not be protected where the impact on others would be excessive or unreasonable, except upon proper compensation to the affected landowner.

8. Impact

The legal mechanism chosen should provide an inducement to solar users to select collectors so designed and located as to avoid unnecessary impact on other landowners.

12.

9. Termination

Protection of solar access should not permanently freeze land use, as urban conditions 10 or 20 years from now may be very different than they are today. For example, infilling or high-rise development of existing urban areas may, in future, be required to prevent further sprawl over farmlands. It should be possible to cut short solar access to permit such development, upon fair compensation (in money, alternate energy supplies, or otherwise) to the solar user.

10. Notice

Natural justice requires that landowners whose property may be adversely affected by a solar right should have notice and an opportunity to be heard before the right is made binding upon them.

11. Municipal Planning

Protection of solar access will impinge upon municipal land use planning, particularly where significant numbers of properties require such access. Both optimizing the location of solar collectors and protecting solar access across neighbouring lots will often require amendment of municipal controls, such as height limitations and set-back requirements in zoning by-laws, and variances from the building code. Provision of solar access should, therefore, be integrated with municipal land use planning.

Where maximum protection of solar access may conflict with other land use planning objectives, integration of solar rights with normal municipal planning would facilitate optimal resolution of such conflicts.

## 12. Flexibility

Technical factors such as latitude and the proportion of cloudy days vary from place to place within Ontario; in addition, solar technology is likely to evolve. Accordingly, any mechanism to ensure solar access must be sufficiently flexible to accommodate itself to local circumstances and to technological change. For example, new kinds of collectors may have different access requirements, just as roof-top collectors have different access requirements from vertical wall collectors.

## 13. New and Retrofit

Both new and retrofit installations of solar equipment will require solar access. Separate mechanisms may be appropriate for the two cases.

## 14. Enforcement

Adequate means of enforcement of the solar right must be provided, and remedies for its breach.

This paper attempts to evaluate the potential mechanisms for creating solar rights in the light of these principles.

ACQUISITION OF SOLAR RIGHTS  
BY PRIVATE AGREEMENT

Under present Ontario law, a person wishing to install a solar collector may reach agreement with his neighbours that they will not obstruct his sunlight. A mere contract, however, would bind only the persons who signed it and would not affect future purchasers of the neighbouring land. Only if the agreed-upon solar right were a property interest registerable against the neighbouring land, could it protect the solar user against future owners of that land.

However, not all contracts create registerable and enforceable interests in land. Only a limited class of such interests are recognized by the law of property.<sup>32</sup> The existing and recognized property interest closest to a "solar right" is an easement for light, but without legislative change, this cannot provide an adequate solar right, even if the people involved so wish.

Clear legislative sanction to private agreements for "solar rights" would authorize their creation, registration and enforcement by private parties, and cut away the technicalities of the common law. Several American states now have such legislation<sup>33</sup> and in others such Bills are being considered.<sup>34</sup>

In addition to merely permitting the conveyance of solar rights, there are other advantages to legislative recognition of solar rights. One is the opportunity to specify the minimum content of the instrument to be registered. Particularly in the early years of solar use, those agreeing to sell, or lease, solar rights may not have a clear idea of the matters with which their agreement should deal; statu-



tory guidance would reduce confusion and ensure a measure of uniformity. In addition, a simple form provided by regulation could minimize or eliminate legal fees in obtaining such rights.

Another advantage is the opportunity to require that solar rights be granted in writing and be unenforceable unless registered against title, in the normal manner of instruments affecting land. This would contribute to certainty in the nature and extent of the right, both for the solar user and for his neighbours and would ensure that adequate public notice of the right was given.

Third is the opportunity to authorize municipalities and other statutory bodies to buy or sell solar rights, as they may not now have this power.

Fourth, legislation could exempt transfers of solar rights from subdivision control. Under s.29 of The Planning Act, conveyance of a partial interest in land, such as a solar right, requires consent of a committee of adjustment.<sup>35</sup> This could be a time-consuming obstacle.<sup>36</sup>

#### Advantages of Private, Solar Rights Conveyed under Authorizing Legislation

1. Interested individuals could usually acquire one on their own initiative, without government intervention.
2. Solar rights could be acquired and registered before the solar user purchased his collector.
3. In areas where all owners were interested in solar use, it might be possible to avoid the potentially high cost of purchasing solar rights by exchanging them among neighbours. This would be particularly plausible in

the context of a shared solar 'mini-utility', where all participants benefitted directly from the preservation of solar access.

4. If the standard form were well drawn, the nature and extent of the solar right would be clear and comprehensible, both to the solar user and to his neighbour.
5. The solar right acquired could be as extensive as the solar user thought it worth his while to acquire, or as his neighbour was willing to grant.
6. The solar user would have every inducement to optimally locate and design his collector so as to minimize the impact on his neighbour, whose consent he required.
7. Other landowners could not be unfairly affected, as they would be subject to a solar right only if they so agree, or purchase property which is already bound. They could bargain for compensation for any loss.
8. The right would be extremely flexible, as it could be negotiated to fit exactly each solar user's economic and technical requirements, for both new and retrofit installations.
9. The right could supplement and/or give more permanence to solar access protected by other means, e.g. zoning.

#### Disadvantages

1. The right would be voluntary; no owner could be forced to grant one.
2. Any compensation which the neighbouring landowner may demand as a condition of agreeing to the right would

add to the already high first cost of solar use.

3. In areas where lots are small and buildings are close together, the agreement of a great many landowners would be required to make the right effective and the refusal of one to co-operate could nullify the agreement of all others.
4. Private solar rights transfers put the entire cost on the solar user, ignoring the public benefits of increased solar use. Insult would be added to injury if, as is likely, the value of the solar right were added to the taxable value of the solar user's property. If, however, his neighbour received a reduction in tax reflecting the reduced development potential of his land, this could reduce the cost of the solar right.
5. Enforcement of the right would require expensive court proceedings.
6. Neighbours may be reluctant to sign a legal document or to encumber the title on their property, even if they would be willing, informally, not to obstruct access.
7. Ill-conceived or excessively rigid solar rights could seriously impede redevelopment of an area, when appropriate for valid public purposes. They could also hamper the solar user in taking advantage of improvements in technology.

### Conclusion

Statutory authorization of privately transferred solar rights would allow solar users to protect their own sunlight by agreement with their neighbours. It involves no cost to

the public treasury and infringes no private rights.

However, neighbourhood agreement is likely to be difficult and expensive for the solar user to obtain.



THE DOCTRINE OF ANCIENT LIGHTS:  
EASEMENTS OF LIGHT BY PRESCRIPTION

Many people have heard of the traditional "right to light" by which one landowner could restrain his neighbour from building an obstruction of his sunlight if he had used that sunlight continuously for many years.

However, no such right may be acquired in Ontario after March 5, 1880,<sup>37</sup> nor in the United States,<sup>38</sup> although they are still possible in England.<sup>39</sup>

Advantages

1. Prescriptive easements have virtually no advantages for the protection of solar rights.

Disadvantages

1. A prescriptive easement cannot be claimed until after the light has been used for many years. The common law "Doctrine of Ancient Lights" required that the use be the length of legal memory, i.e. since 1189 A.D., but this was reduced to 20 years, first by the judicial fiction of the 'lost modern grant', and then by The English Prescription Act of 1832.<sup>40</sup> At any time during that period, the light may be interrupted by a neighbour (e.g. by erecting a structure on his land) and the solar user then loses his sunlight without compensation.<sup>41</sup>

Neighbouring landowners would be unlikely to sit passively through this lengthy period, especially in urban areas where development rights are, or may become, valuable.

2. Even after 20 years, the traditional right remains inchoate (subject to loss) by one year's interruption until it has been confirmed in a court action.<sup>42</sup>
3. Like all "easements of light", prescriptive easements are limited to light enjoyed through apertures in buildings, and to the amount of light necessary "for ordinary purposes", e.g. to read a newspaper in at least one half of a room.<sup>43</sup> This ill-defined amount is obviously far less than the amount of solar energy required to make an impact on a building's energy requirements.
4. Prescriptive easements, though vague, are rigid and inflexible. An easement wholly or partially acquired for one type or location of collector would be lost if there was a substantial change in its size or location.
5. From the point of view of neighbouring landowners, prescriptive easements would unfairly and unreasonably restrict their property without compensation, especially as new purchasers could be unaware of the collector or of existing or accruing easements. This would be particularly likely in the case of purchasers of non-adjacent lots, who might not see or recognize a collector three houses over (particularly a passive system), nor realize the extent to which sunlight to other properties crossed their own.

6. From the point of view of municipal planning, prescriptive easements would have the potential to impose stringent and unreasonable low-rise swaths in areas zoned and serviced for high-rise development, while doing nothing to protect sunlight for future use in more suitable areas.

### Conclusion

Prescriptive easements for light do not seem to be a desirable mechanism for protecting solar rights and their obligation should not be disturbed.

PRIOR APPROPRIATION

Some writers have suggested that sunlight should be considered not as an incident of land ownership but as a natural resource.<sup>44</sup> However, sunlight is unique in being mobile, ubiquitous and inexhaustible, and yet subject to obstruction. As most conventionally regulated resources (such as fish, forests, minerals and petroleum) lack one or more of these characteristics, analogies are generally unhelpful. Only the allocation of surface water is similar.

In areas such as England and Ontario, where water is plentiful, 'riparian rights' entitle all landowners whose property abuts a body of water to use whatever water they wish for any reasonable purpose.<sup>45</sup> In South Australia, where urban residential lots average 1/4 acre, a similar approach has been proposed for the allocation of sunlight.<sup>46</sup> However, this approach breaks down when one person's use of water (or sunlight) interferes with its use by others, i.e. when the demand exceeds the supply.

"Prior appropriation" is an American concept developed for the allocation of water in the arid western states.<sup>47</sup> "The appropriation doctrine rests on the principle that whoever first begins to use ("appropriates") a source of water is entitled to continue such use at the same rate."<sup>48</sup>

A legally protected appropriation requires:

- (1) an objectively evidenced intent to appropriate;
- (2) notice of the appropriation to other interested parties;



- (3) initiation of confirmatory legal procedure (permit application or court action);
- (4) a diversion of water from a natural stream; and
- (5) its application, with reasonable diligence and within a reasonable period of time,
- (6) to a beneficial use.<sup>49</sup>

A 'water master' may determine the validity of claims of established use, issue permits, and may, in some states, establish priorities (e.g., drinking water ahead of irrigation).<sup>50</sup> Water rights which are not used for the beneficial purposes for which they were created are forfeited to the state.<sup>51</sup> In some states where an application is received for a use with high priority, existing appropriations for lower priority uses may be invalidated upon full compensation.<sup>52</sup>

A key element in this doctrine (and its most significant difference from concepts of property ownership) is that the water must not only be claimed but used for a socially desirable purpose; no one is permitted to waste a shared resource of such importance.

Prior appropriation could readily be adapted to solar rights in states where all parties were familiar with its operation from its application to water, and some such states are considering, or have passed, appropriate laws.<sup>53</sup>

This would have several advantages:

- (1) state wide consistency in resource allocation principles,

- (2) greater ease and economy in administration and litigation of disputes, due to the familiarity of lawyers, judges, etc., with the concepts at issue, and
- (3) productive use of the legal research and experience developed in relation to water to avoid some of the pitfalls and blind alleys common to developing areas of law.<sup>54</sup>

### Conclusion

However, for these very reasons, the prior appropriation doctrine is much less useful as a protection of solar rights in jurisdictions where water is governed by riparian rights.<sup>55</sup>

Accordingly, while the experience of prior appropriation states with water law may provide useful guidance in the allocation of a scarce resource, importation of the doctrine itself is likely to be unnecessarily complex and confusing in Ontario.

PROTECTION OF SOLAR ACCESS BY  
LAND DEVELOPERS THROUGH RESTRICTIVE COVENANTS

Restrictive covenants are conditions involving land imposed by a landowner upon himself and subsequent purchasers of his land, prohibiting those persons and their successors in title from doing specified things with the land.

Such conditions may be created and enforced by individuals under existing Ontario law, if they meet certain longstanding judicial tests.<sup>56</sup> In some circumstances, they may also be the subject of agreement with the municipality.

If properly designed, restrictive covenants can prevent or limit change in the solar exposure of an industrial or residential development, e.g. by prohibiting construction on the affected land which would cast shadows on neighbouring properties.

Restrictive covenants are generally used for the benefit of other properties in the same subdivision, but were used to protect sunlight falling on a church square from obstruction by a neighbouring developer in at least one recent case.<sup>57</sup>

A variation on this approach would be possible both in new and in existing condominiums, particularly where central collectors for the entire condominium were constructed or envisaged. Here, both the collectors and the airspace necessary to assure them solar exposure could be "common elements", owned and maintained by the condominium corporation and not by the individual owners. Again, however, obstructions erected outside the condominium would not be controlled.

Advantages

1. Restrictive covenants can be used now. They do not require authorizing legislation, although such legislation could facilitate their use.
2. Restrictive covenants are common in new subdivisions and frequently do control the height and location of any additions or new structures which may be built on the property, and the types and location of vegetation. Use of these controls for the new purpose of preserving solar access should, therefore, not be difficult and should be well understood by developers, registry officers, planning staff, and real estate lawyers.
3. As the solar right can be assured before the construction of buildings, the risk of loss of access to sunlight need be no deterrent to the installation of solar equipment by the developer or by subsequent purchasers.
4. No additional cost or delay would be encountered by purchasers who retrofit such buildings with solar devices. The additional cost and delay to the developer would be very small as only minor clauses need be added to existing documents and would primarily be related to selection of appropriate restrictions and an appropriate subdivision design. This difficulty will naturally decrease as solar energy use becomes more familiar and, even in the early stages, can be reduced by dissemination of better information on solar design requirements, sample solar subdivision plans, model solar restrictive covenants, etc.
5. The nature and extent of the solar right would be very clear both to potential solar users and to landowners affected by it. Restrictive covenants must be set out in writing and registered on the title of the land



affected and they are also usually described in the Agreement of Purchase and Sale. Thus, all purchasers should obtain adequate notice.

Developers of solar subdivisions may also be expected to have models and drawings of the solar access displayed in their "model homes". The solar rights will presumably be a selling point for the protected lots and it will, therefore, be in the developer's interest to ensure that they are well publicized. Again, model covenants may assist developers in imposing restrictions which are clear and comprehensible to the layman.

6. The scope of the solar right can be the best possible in the circumstances. The developer clearly has the best opportunity to provide optimum solar access for his subdivision, as - within municipal constraints - he has control of all variables affecting access, including lot arrangement, street layout, etc. It is possible, of course, that unscrupulous developers may attempt to sell as "solar homes" subdivisions which are, in fact, so designed or located as to receive an inadequate exposure to sunlight. This, however, is primarily a question of consumer protection and not of solar rights and is closely related to protection of consumers from shoddy solar equipment and "fly-by-night" contractors.
7. The developer has an equal interest in the sale of all his lots and, therefore, will carefully weigh the competing interests of his various properties. However, in order to avoid unreasonable restrictions which would impede their sale, he is likely to protect solar access only to designated parts of his lots and not to impose any restrictions so excessive as to render any lot unsaleable, even if this means that some lots will be partially shadowed.<sup>58</sup>

8. The compensation for any restrictions imposed will be "automatically" allocated in the market value of the various lots. For example, more heavily restricted lots might sell for somewhat less, whereas lots with better solar access would be expected to cost more. Where all lots are restricted and benefited equally, compensation is not required.
9. No unfairness could arise vis-a-vis other landowners, as restrictive covenants cannot affect any property other than that owned by the developer.
10. Restrictive covenants can be integrated with the municipal land use planning process to some extent through subdivision agreements negotiated with municipalities.<sup>59</sup> For example, in exchange for agreeing to impose solar restrictive covenants, the developer could receive from the municipality amendment of zoning controls, such as set-backs which impede the proper location of buildings and collectors. If solar rights were not deemed appropriate by the municipality (e.g. next to an area slated for high-rise development), the municipality could use its review powers to discourage them.
11. Solar rights could be closely accommodated to current technology, as well as to the type of construction and solar potential of the buildings in each development. Where the developer himself installed solar collectors, the solar rights he provided could be tailored exactly to the requirements of that equipment. However, some developers would impose restrictions which would be adequate only for limited types of solar devices, such as rooftop collectors, and would not protect otherwise preferred systems, such as vertical wall collectors.

12. Actual or potential solar users could directly enforce any restrictions on other landowners in the same subdivision which benefit them, without government intervention.<sup>60</sup>
13. Consideration of solar access at the planning stage of the subdivision might also permit utilities to be planned for appropriate back-up requirements.

### Disadvantages

1. Restrictive covenants will be useful to protect solar access primarily in large new subdivisions and in those of moderate size surrounded by low-rise development. Because no control is exercised outside the boundaries of the subdivisions, tall buildings on adjacent properties may render the protection within the subdivision ineffective.
2. Developers' restrictive covenants have no relevance to established neighbourhoods, nor to commercial and industrial lots which are developed by separate owners. In these areas, restrictive covenants would have to be secured individually from each owner (see Ch. III).
3. Restrictive covenants may be enforced by injunctions or awards of damages but both of these require recourse to the courts, which is expensive and time-consuming. It may be possible, however, where provision of the restrictive covenants is part of a subdivision agreement with a municipality, to make the municipality (or perhaps a "solar agency") responsible for enforcement of the covenants. This would relieve the individual homeowner of the burden of bringing a court action and would be particularly appropriate for the protection of potential future users.

4. Restrictive covenants cannot force the restricted owner to spend money, e.g. to trim trees. The only control possible over vegetation is to prohibit the planting of trees of defined types or in defined locations. This could result in completely treeless subdivisions to protect the possibility of future solar use.
5. Restrictive covenants could be used to hinder solar use as well as to encourage it. Indeed, many existing covenants may have this effect unintentionally, particularly those which attempt to ensure aesthetic uniformity. Homeowners so restricted may have adequate solar access but may be prohibited from using it, i.e. from installing collectors which would be visible from the street.<sup>61</sup>

### Conclusion

Restrictive covenants imposed by a developer, preferably as agreed upon by him with the municipality, are possible now and appear to be a highly desirable way of protecting solar access in substantial new developments, industrial, commercial and residential. As recent studies have shown an "enormous public reservoir of goodwill"<sup>62</sup> towards solar energy, such covenants could well become popular among developers. Indeed, some may find them attractive as an inexpensive means of marketing a "solar subdivision" without the economic risk of actually purchasing and installing solar equipment.

However, some assistance would be required to encourage their use, particularly in the development of criteria for solar subdivision design, sample solar subdivision plans, and model solar restrictive covenants, which interested developers could adapt. Some encouragement could also be provided through inclusion of energy statements in municipal official plans. (See below, page 38)



SOLAR ZONING

Solar zoning is one of the most extensively analyzed and developed legal mechanisms for the protection of solar rights in North America.<sup>63</sup>

In the United States, the states of Oregon and Maryland now authorize municipal by-laws "protecting and assuring access to incident solar energy";<sup>64</sup> other states, including Arizona,<sup>65</sup> Michigan<sup>66</sup> and Illinois<sup>67</sup> are presently considering similar action. There is no such express authority in Ontario.

Some municipalities, including Davis and Century City (California), Colorado Springs, Pitkin County and Indio (Colorado), Albuquerque and Los Alamos (New Mexico), and Largo (Florida), already have such by-laws.<sup>68</sup> Others, including Santa Clara and Los Angeles (California),<sup>69</sup> and Ottawa and Metropolitan Toronto (Ontario)<sup>70</sup> have expressed interest in them. Scotland uses a similar mechanism to protect sunlight for residential lighting,<sup>71</sup> and Halifax zones to protect "view planes".<sup>72</sup>

Solar zoning has many potential aspects, only a few of which are possible under existing Ontario law. In solar zoning, municipalities define "solar zones" in which solar use is encouraged. As solar use may be compatible with a variety of neighbourhoods, including commercial, industrial or residential areas, solar zones may be 'overlaid' on existing zoning. In other words, existing zoning categories such as 'General Commercial' or 'R1' are not altered or replaced, but defined portions of appropriate zones are given an additional solar classification. Different degrees of encouragement may be provided in different types of solar zones.



Within such zones, solar users may receive total or partial exemptions from existing restrictions which impede the cost-effective use of collectors, such as height, set-back, lot coverage, aesthetic and use requirements. Exemptions may be granted for individual lots, or for groups of lots which are planned together for an energy-efficient layout. Individual or shared solar use may also be made a permitted use in all zones.

All new construction in solar zones could be subjected to strict height and spacing controls to minimize shading of neighbouring properties, whether or not solar collectors were yet in use on those properties. Rooftop shading could be avoided even in high-rise areas if all buildings were the same height.

Although existing shadow-casting buildings would continue as legal non-conforming uses,<sup>73</sup> new building permits could also be refused to all proposed structures which would shade actual collectors.

Even in solar zones, however, some consideration must be given to the conflicting interests of other landowners. Thus, exceptions from strict height restrictions should be granted through the normal variance process in appropriate cases (e.g. unusual hardship or the obvious unsuitability for solar use of the area to be shadowed).

Similarly, variances to allow the installation of collectors should be restricted to those which are not unfair to neighbouring lots, such as by unnecessarily obstructing their light.

Where no building is permitted to shade actual collectors, the exposure protected should be only that necessary for a useful purpose. Ineffective or spite collectors should not receive public protection because they do not contribute to

the public welfare, e.g. by reducing the use of other fuels. In addition, collectors used only for space heating should not be protected in the summer; collectors used to heat swimming pools would not require protection in the winter.

### Large Developments

Special kinds of municipal by-laws are used to control large developments. Because of their flexibility, these offer scope for innovative approaches to municipal protection of solar rights. One such is "bonus zoning", whereby a landowner receives the right to more intensive development of his property in exchange for providing a public amenity. This process is often used to obtain public open spaces without cost to the municipality and could be adapted to procure (a) solar use in the development and/or (b) minimization of shadowing of neighbouring properties.

"Cluster zoning" could permit a developer to group his buildings near the northern edge of his property and to aggregate the required open space to the south. This could have many advantages from an energy point of view. Access to both direct and reflected sunlight would be protected to some degree by the southerly open space, the grouped buildings could have a lowered heat demand by protecting each other from the elements; and solar, or other, heating facilities could be shared with lower per unit costs. Other, complementary benefits would include reduced servicing costs.

An innovative approach in the city of New York, which renounces traditional zoning envelopes in favour of conscious scoring for specific amenities, also has advantages for the promotion of energy efficiency in general and solar use in particular.<sup>74</sup> This by-law, known as "Zoning for Housing Quality" (ZHQ), is directed at small-lot multi-

family housing. Permits may be obtained if the proposed development achieves at least 85 of 100 possible performance-oriented "points"; of these, 17.4 relate to sunlight within the proposed dwellings, on adjacent open space, or on the surrounding neighbourhood.<sup>75</sup> Since achievement of specified goals, and not predetermined building shapes, contribute to achieving points, there is a maximum of opportunity for innovation.

Although New York's ZHQ does not expressly mention energy efficiency or solar use, it could readily be modified to provide potential "energy points", e.g. for markedly reduced energy use compared to conventional buildings, or for "solar stubbing", i.e. design to readily accommodate a future solar retrofit. However, it is probably unnecessary to assign additional points to the preservation of solar access, as this is already considered (albeit for other purposes) in the by-law.

### The Planning Act

In Ontario, authority for some aspects of solar zoning is found in s.35 of The Planning Act:<sup>76</sup>

"By-laws may be passed by the councils of municipalities:

- (1) 4. for regulating the.....height, bulk, location,.....spacing, external design, character and use of buildings or structures erected within.....any defined area,.....and the minimum frontage and depth of the parcel of land and the proportion of the area thereof that any building or structure may occupy."

By-laws authorized by this section could impose uniform height and spacing limits within solar zones and could authorize solar use in all zones of the municipality.

It seems probable that preservation of solar access for private individuals would be a proper purpose for such by-laws, especially since preservation of ample light and air has long been recognized as a goal of zoning.<sup>77</sup>

However, special exemptions for solar users from height, set-back and other requirements would be of dubious validity unless specially authorized by legislation, as restrictions must generally be uniform within a zone. Refusal of building permits to shadow-casting developments would also require special authorization, as would innovative methods of zoning, such as ZHQ.

In the case of large developments, one existing legal tool which could be amended to authorize municipalities to protect solar rights is s.35a of The Planning Act, which deals with site plan by-laws and subdivision agreements.

35a, (2) "Where there is an official plan in effect in a municipality, the council of the municipality in a by-law passed under s.35 may, as a condition of development or re-development of land or buildings in any defined area, prohibit or require the provision, maintenance and use of the following facilities and matters or any of them, and may regulate the maintenance and use of such facilities and matters:

7. Conveyance to the municipality without cost of easements required for the construction, maintenance or improvement of any existing or newly required water courses, ditches, land drainage works and sanitary sewage facilities in the land.

8. Floodlighting of the land or of any buildings or structures thereon.

9. Walls, fences, hedges, trees, shrubs or other suitable ground cover to provide adequate landscaping of the land or protection to adjoining lands and,



11. Plans showing the location of all buildings and structures to be erected on the land and the location of the other facilities required by the by-law.

- (4) A by-law that includes provisions authorized by s.s.2 may

(a) provide that facilities and matters required by the by-law should be provided and maintained by the owner of the land at his sole risk and expense and to the satisfaction of the municipality, and

(b) require that the owner of the land enter into one or more agreements with the municipality dealing with the facilities and matters referred to in s.s.2.....

- (5) Any agreement entered into as referred to in clause (b) of s.s.4 may be registered against the land to which it applies and a municipality is entitled to enforce the provisions thereof against the owner and, subject to the provisions of The Registry Act and The Land Titles Act, any and all subsequent owners of the land."

Thus, in addition to the normal zoning powers granted by s.35, municipalities which have official plans may exercise special powers in respect of large developments.

In the present s.35a, the most important of these for solar access is clause 9 of subsection 2, since vegetation cannot be regulated by zoning by-laws under s.35. If this were amended to authorize regulation of vegetation for the protection of access to sunlight, municipalities could, for example, limit the height and location of trees, or specify that vegetation exceeding a certain height be deciduous.

Other clauses of s.35a(2) could also be amended to give municipalities more power to protect solar access. Clause 8, for example, could refer to "natural lighting or shadowing of buildings or structures" so as to provide general authorization for the regulation of solar access. Clause 11 could require that site plans show the shadows which would be cast



## ERRATA and OMISSIONS

- p.31, line 4        should read: "In the United States, the state  
   of Oregon now authorizes"
- p.38, lines 5 & 6 should read: "hensive plans", and at least  
one state - Oregon - has passed enabling legislation  
authorizing municipal policy state -"
- p.77, footnote 33, should read:
- |              |                     |
|--------------|---------------------|
| Colorado     | ch.326 Laws of 1975 |
| Kansas       | ch.227 Laws of 1977 |
| Maryland     | ch.934 Laws of 1977 |
| North Dakota | ch.425 Laws of 1977 |
- p.77, footnote 34, add Missouri 1977  
Ohio                1977 H.B. 333
- p.79, footnote 41, add "An additional provision was a temporary  
extension of the 20 year period to 27  
years, for owners commencing legal  
action before January 1, 1963. This  
permitted owners of property over which  
easements had been acquired due to war  
time restrictions, 3½ years to recapture  
the right to develop their property."
- p.82, footnote 64, delete "Maryland, 1976 Laws of Maryland c.509"
- p.82, footnote 71, add "Sunlight and Daylight", H.M.S.O. publication
- p.83, footnote 80, should read "1975 Laws of Oregon, c.153"

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Government Publications

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Remarks:

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Ontario law on  
Solan access

by proposed developments, thus increasing both planners' and developers' awareness of sunlight and shadows.

Finally, clause 7 suggests an entirely different approach to the protection of solar access, in that easements required for unobstructed access to sunlight of buildings in the proposed developments could be required to be conveyed to the municipality without cost. This will be further discussed below.<sup>78</sup>

### Official Plans

Since municipal by-laws in Ontario must conform to the municipality's official plan,<sup>79</sup> it would obviously be desirable for solar zoning to be based on an "energy statement" in the plan. Such a statement would express municipal policy concerning energy. Where appropriate, the statement could explain the advantages to the municipality and its residents of encouraging solar use. Municipal intention to zone for the optimal location of collectors and for the protection of solar access for both present and future solar users could be set out and proposed solar zones could be indicated on a map. Any direct municipal initiatives, such as a policy to use solar collectors for municipal offices or swimming pools, could also be mentioned.

Such a statement would provide a firm underpinning to the solar zoning by-laws and could justify unusual latitude in granting variances and building permits for solar use. It would give both notice and guidance to developers, municipal planners, committees of adjustment, and individual citizens interested in solar energy use. It also would encourage consideration of the impact of shadows and of opportunities for energy conservation and solar use in assessments of major projects within the municipality.

There is no legal obstacle to such a statement, but none exists in Ontario.

Certain American municipalities, including Barrington, Illinois, already have energy statements in their "comprehensive plans" and at least two states - Connecticut and Oregon - have considered requiring municipal policy statements on solar energy.<sup>80</sup>

Such statements could readily be incorporated into the existing official plan structure and would be equally compatible with the "municipal plans" proposed recently by the Comay Commission. However, it would be desirable to amend s.2(7) of The Planning Act to expressly authorize energy considerations as proper objects of the plan, primarily to encourage municipalities and the Municipal Board to include such statements, but also to protect them from legal challenge.<sup>81</sup>

Municipally designated solar zones could potentially be important components of federal and/or provincial solar incentive programs, such as construction grants or low interest loans, which could be provided only to owners in the zones.<sup>82</sup> Similarly, solar zones could be given preference in locating federal or provincial solar demonstration projects. Such schemes would, undoubtedly, encourage the designation of solar zones.

### Advantages

1. Zoning is a common and well-understood mechanism for land use planning. The addition of "solar zones" would not differ substantially from existing zoning by-laws and would not add significantly to either municipal or private administrative burdens.

2. Potential solar users would know before deciding whether or not to install a solar device, whether or not their property was located in a "solar zone" and, if so, the nature and extent of the protection which they would receive.
3. No cost or delay would be encountered by a potential user in a solar zone because all properties in a solar zone would already be protected.
4. It is possible to draw relatively simple zoning ordinances that are clear and comprehensible to potential solar users, as well as to their neighbours, though this may require certain compromises with technical optimization and flexibility. However, the special approaches discussed for large developments will inevitably be more complex.
5. Locally-administered solar zoning should be capable of protecting optimum solar rights for a zone as a whole, as the height, set-back, etc., requirements of all lots may be appropriately designed. This may, of course, not correspond with optimal solar access for any particular lot.
6. Municipal councils, in passing zoning by-laws, are in a good position to weigh the competing interests of both potential solar users and their neighbours and are likely to limit their restrictions to those which are reasonable for both parties. Such restrictions may mean, for example, that only sufficient access is provided in some areas to permit solar hot water heating and not space heating, or that no protection would be provided in areas expected to develop densely. Excessive interference with neighbouring properties would, presumably, not be allowed by the councils.



7. Solar zoning restrictions can, theoretically, be developed which protect only reasonable types and locations of solar collectors. Normal variance procedure, through application to a local committee of adjustment, would be available where variations from this norm could be justified.
8. Solar zoning does not permanently freeze land use, as municipal councils retain the right to amend all by-laws in response to changes in local conditions.
9. Zoning by-laws are matters of public record. Prospective builders and purchasers are generally aware that they must check zoning by-laws and that such by-laws may constrain their proposed use of property. Accordingly, landowners and prospective purchasers should have reasonable notice of any solar right to which they are subject or entitled.
10. Zoning by-laws are area-specific and permit solar rights to be tailored to the local climate and topography. They may be readily amended by the council to take account of changes in technology.
11. Zoning by-laws affect all new construction in defined areas. Although subject to legal non-conforming uses, solar zones can preserve any existing access to sunlight and, therefore, can be useful both in new subdivisions and in appropriate existing areas (retrofit applications).
12. Zoning is public action which recognizes the public benefits of solar use. The cost of solar rights in land use restriction is spread among many owners without impairing either private or municipal budgets, as no compensation is required for reasonable zoning restrictions.

13. Adequate enforcement of the solar right would generally occur vis-a-vis new construction, since building permits may not be issued for buildings which would contravene zoning by-laws. Private enforcement of zoning is also possible, though expensive, through the courts.

#### Disadvantages

1. Solar zoning is not a secure protection of solar access, as by-laws may be changed at any time.
2. Zoning cannot be established or enforced by individuals but only by municipal councils and, therefore, provides no protection for isolated solar pioneers or those with unsympathetic councils. Its creation involves substantial government red tape.
3. Separate solar programs in each municipality and the need to separately convince each municipal council of the value of solar energy would result in considerable duplication and waste of resources, even if an effective coordinating role were played by a provincial agency.
4. The technical demands of effective solar zoning may be beyond the capacity of most smaller municipalities. Even larger municipalities would have difficulty in the early years, as solar-oriented municipal design is still embryonic in Canada.
5. No control of vegetation can be afforded by zoning under present law. It would, therefore, be necessary to combine solar zoning with an alternative mechanism, such as 'shade control' laws.<sup>83</sup>

6. Solar zoning can be only partially successful in existing areas, as structures cannot be moved to meet new requirements, e.g. for southerly set-backs.
7. Characterization of existing buildings as legal non-conforming uses has adverse consequences for the owners of those buildings, which may excite their opposition to the solar zone. In any event, the traditional rule against alteration or changes of use of "non-conforming" buildings should be amended to permit retrofitting of solar or energy-conserving equipment.
8. Committees of adjustment lack technical expertise and are not well qualified to evaluate variance applications related to solar use.

### Conclusion

Solar zoning is, potentially, the principal long-term tool for the general protection of solar access. It is consistent with Ontario's proposed policy to restore autonomy in land use control to municipalities. It appears to offer the best means of integrating solar rights with land use planning as a whole, as well as with solar incentive programs at all levels of government.

However, only limited aspects of solar zoning are authorized by existing Ontario legislation. Even if fully authorized, solar zones are unlikely to be widespread in the immediate future and, therefore, might need to be supplemented by alternative mechanisms for the protection of solar pioneers. In the longer term, municipalities could require substantial provincial assistance to design and administer such zones and to keep pace with evolving technology.

SHADE CONTROL

Provincial legislation or appropriately authorized municipal by-laws could automatically grant every solar user a specified solar right, effective upon the installation of his collector.

If such a right took precedence over all rights of neighbouring landowners, it would provide the greatest protection to solar users at the least cost and trouble to themselves. For this reason, it has been proposed in several American jurisdictions.<sup>84</sup> However, it could be most unfair to neighbouring landowners, as the development value of their property (in some cases including the right to install a collector of their own) could be taken from them unilaterally, without warning, without compensation, and without appeal. Such an approach assumes that any use of sunlight by any solar collector is more valuable than every possible obstruction, and therefore is as blindly onesided as the current law that no obstruction of light is wrong. It would, therefore, be as impossible to justify on economic grounds as it is on political ones, and cannot be recommended.

However, different considerations would arise if the statute conferred automatic precedence only over uses of property which are of limited public utility. For example, trees, accessory structures and signs are much less valuable than the right to develop land. By comparison, therefore, the public interest in solar use can justify more stringent restrictions of the former.

Since zoning by-laws cannot, at present, control vegetation,<sup>85</sup> a "shade control law" could be a useful supplement by prohibiting vegetation from shading collectors in solar

zones. Alternatively, all collectors in the province or in a municipality could be granted this protection. Offending vegetation would be trimmed or cut down by a designated municipal official as a public nuisance.

Shade control laws differ from zoning and from "natural" solar rights in that they affect only vegetation and prescribed accessory structures; and then, only to the extent that actual collector use is impeded. They differ from site certification in that a limited right to freedom from shade would vest automatically on the installation of the collector and would not depend, in the first instance, upon the discretion of a government body. They differ from municipal solar right acquisition in that no property is acquired by the municipality and no compensation is paid to the affected landowner.

Shade control, in effect, redresses by statute the balance of public convenience and necessity between the use of sunlight and other uses of property, which has been weighted against sunlight in the judge-made law of private nuisance. It grants the use of sunlight by solar collectors a specified precedence over the use of enumerated obstructions, to take into account the new public interest in the use of solar energy.

In the interest of fairness to owners of obstructions more valuable than the collector they shade, such as specially important trees, it would, nevertheless, be desirable to provide for the granting of exemptions, in the manner of a local variance, to offer an avenue of appeal.

#### Advantages

1. Shade control would protect solar users from certain kinds and amounts of shade, without cost, expense or delay to themselves.



2. Shade control would not unreasonably affect other land-owners, as only specified kinds of obstructions of limited economic importance would be affected.
3. Shade control could complement solar zoning by completing the protection of collectors in solar zones.
4. Shade control is clear, straightforward and readily enforced.
5. Shade control by municipal by-law would be both flexible and integrated with municipal planning.
6. Objecting neighbours would have an opportunity to appeal against the loss of a specially valuable tree, etc.

#### Disadvantages

1. The major disadvantage of shade control is its adverse impact on trees. Since the law would only apply to the extent that actual collector use was impeded, little tree removal would be required, especially in the early years. Additional protection for urban vegetation could be provided by specifying a zone around the perimeter of each lot which might be shadowed,<sup>86</sup> or by restricting shade control to municipally designated solar zones.

However, even so restricted, a shade control law may be objectionable in densely populated urban areas where trees are much prized. It may even decrease energy efficiency, as trees are important moderators of local climate, providing winter windbreaks and summer shade. It is for this reason that no shade control law has yet been passed, although proposed in Colorado and New Mexico.<sup>87</sup>

However, Ontario may be in a more favourable position than the majority of American states in this regard, since our peak season for the use of solar energy would come in the winter when deciduous trees cast only minimal shadow, in contrast to many American states where solar cooling is important. It may, therefore, be possible to grant a sufficient degree of protection from winter shading for space heating and summer shading for hot water heating, without having an undue impact on urban vegetation.

2. Shade control would occasion public invasion of private property (albeit of limited extent) without compensation, initiated by the private action of another. The availability of an avenue of appeal would only partially meet some owners' sense of grievance.
3. Shade control offers solar users only partial protection from shading, as it would not restrain property development and therefore must be associated with other controls, such as zoning, for full effectiveness.
4. Shade control would burden municipal treasuries with the salary of an enforcement officer.

### Conclusion

Provincially authorized shade control by-laws which provide all solar users within municipally-designated solar zones with a limited freedom from shade caused by vegetation or accessory structures such as signs could be a valuable supplement to solar zoning. It would, however, have to be carefully qualified to avoid undue impact on urban vegetation and a local committee should be able to relieve against the right in appropriate circumstances.

CERTIFICATION OF SOLAR SITES

If so authorized by legislation, municipalities could, upon application, certify specified locations for solar collectors.<sup>88</sup> Such legislation has been proposed in Massachusetts and Rhode Island.<sup>89</sup>

In contrast to zoning, which could limit shadowing in wide areas as a matter of public policy, certification would vest in individuals the right to protection of a specific site. Unlike private conveyances, certification could coerce the restraint of all neighbours of a solar user.

After all affected landowners had been notified and given an opportunity to be heard, certificates could be granted for appropriate sites, on whatever terms and conditions the certifying body saw fit to demand, possibly including compensation. To avoid excessive cost, compensation could be restricted to cases of hardship, or limited in amount.

Upon registration of the certificate against his neighbour's lands, the site owner would become entitled for a specific period (e.g. 30 years) to unobstructed solar access through a defined three-dimensional space, subject only to existing buildings and to such other conditions as are set out in the certificate (such as to summer shading by deciduous trees, or to a named neighbour's right to build a specified garage).<sup>90</sup> Interference with the protected sunlight could be both a public and private nuisance, permitting enforcement either by the site owner or by the municipality.

Landowners not planning to install collectors immediately could also receive certification in the discretion of the certifying body. However, municipalities may be, understandably, reluctant to restrain development in favour of a

person who would not use his solar right.

The application for the certificate could be combined with an application for a variance of any zoning restrictions which might impede optimal design and location of the solar collector. A single hearing could, thus, deal with all outstanding issues, minimizing the trouble, delay and expense for the solar user, his neighbours and the municipal planning staff, and permitting trade-offs to be made between variances and restrictions on neighbours.

Where site certification would impose unusual restrictions on a small number of lots close to a solar collector, those owners would have a much better claim for compensation than if large tracts were restricted, as in zoning. Because of the potentially prohibitive cost of compensating all such owners, creation of "transferable development rights" has been proposed.<sup>91</sup>

Originally conceived to protect urban landmarks from development pressure, transferable development rights permit low-rise buildings in developing areas to remain economically in private hands. This entails:

- (1) separation from the land as a new property interest the right to develop to the zoned density;
- (2) designation of a "transferee district" which is capable of supporting, and has a demand for, development in excess of its zoned limit (transferee districts are, typically, downtown high-rise areas);
- (3) conveyance to owners in the transferee district, either directly or through purchase and resale by the municipality, of the transferable development rights of the protected parcel (purchasers in the



transferee district are generally permitted to purchase up to 1/6 of their existing limit as additional density); and

- (4) reduction in the property taxes of the protected parcel to reflect its lowered market value.

This process would have several advantages.

- (1) The owner of the low-rise building would be compensated for foregoing development of his property by the sale price of his development rights and by reduction in his property taxes.
- (2) Transferee owners could pay for the rights by making fuller use of their properties.
- (3) Municipal planners could divert development to locations where its adverse impact would be minimized, without undue strain on the municipal treasury.
- (4) Preservation of the low-rise building would be guaranteed because the right to redevelop its site had been permanently sold.

All of these could apply equally to the preservation of solar access over low-rise buildings in vulnerable locations, e.g. where existing zoning would authorize construction of an obstructing building. However, despite their apparent promise, transferable development rights schemes are very rare in the United States and are still unknown in Canada.

Because of their novelty and complexity, and their reliance upon the informed participation of many parties, transferable development rights seem a less desirable mechanism for the protection of solar access than simpler, more familiar ones such as zoning.

#### Advantages of Site Certification

1. Certification of individual sites provides the maximum of flexibility to tailor solar rights exactly to the needs of the solar user. It readily accommodates variations in topography and local climate, as well as technological innovation.
2. Site certification is applicable both to new and to retrofit installations and would be particularly useful for occasional solar installations in built-up areas.
3. Fairness to neighbouring owners would be provided by the notification and hearing process. The need for solar access of the potential solar user would be balanced against the inconvenience and restrictions of his neighbours by the certifying body. Unreasonable interference with other properties would be avoided by denial of inappropriate certificates.
4. Certificates could be granted on terms and conditions which encouraged optimum solar collector design and location, taking into account social, technical and land use considerations.
5. Even if compensation were ordered, municipal certification could be less expensive for the solar user than privately purchased easements, as the compensation, if any, would be determined by arbitration, and as all neighbours would be compelled to grant solar access.

6. The nature and extent of solar right would be clearly spelled out on the certificate. Registration of the certificate would provide ample notice to all those dealing with the affected land.
7. Certification would remove the legal risk of shadowing before actual purchase of the collector, although preliminary selection would probably be necessary to establish the technical requirements of the application. Certification could protect some prime sites for future solar use, on the initiative of the current owner.
8. The fixed term of the certificate (at least as long as the estimated useful life of the collector) would permit future urban change when necessary. However, the length of the term should be sufficient that solar use will have become highly valued by its expiry and renewal of certificates should normally be granted.
9. Especially in the early stages, the publicity associated with the pre-certification hearings could enhance the demonstration effect of solar pioneers.
10. Site certification could also facilitate the application of other proposed incentives to solar use, such as property tax exemptions. For example, deposit of a copy of the certificate with the local assessor might be a useful method of initiating a claim for an exemption and could minimize the paperwork required or a solar user. Certification would also provide useful records of solar use.
11. Supplementation of certificate registration by a prohibition of building permits for structures that would violate a certificate would give ample means of enforcement at little cost to the solar user.

Disadvantages

1. The principal disadvantages of site certification are its cost and delay to the solar user and its administrative complexity. Speculative builders, in particular would be unlikely to use such a mechanism (although a single certificate for a large tract might be no more objectionable than the often necessary zoning change, especially if the two could be combined). The cost barrier would be particularly severe if compensation of neighbouring owners were made a condition of certification.
2. Separate programs of certification in each municipality would involve substantial duplication and waste of effort, particularly in acquiring the necessary technical expertise. Additional duplication would occur within municipalities because solar rights for each lot would be determined separately.
3. The administrative burden of the hearing process would make it less suitable as increasing numbers of certificates were required. However, this obstacle would be minimal in the first few years.
4. Because of the restrictions imposed on individual landowners, certification might have to be a function of the municipal council. This would be particularly burdensome in large municipalities.
5. Despite its similarities to spot zoning and to variances, the introduction of a new certification process would undoubtedly cause confusion and would take time to become generally understood and accepted. It might not be well received in smaller municipalities because of its technical demands.



6. Focus on individual sites ignores the importance of protecting large areas for future solar use from the creation of unnecessary shadows.
7. Certification of individual sites means restrictions on property use for the benefit of a private individual. This may be difficult to justify as a contribution to the public welfare. It also presents large openings for arbitrariness and abuse.
8. Ill-conceived certificates or those insufficiently integrated with municipal planning could cut unreasonably restrictive swaths through the municipality. Technically inept or unsympathetic certifying bodies could grant certificates which were inadequate or unnecessarily restrictive, thus impeding solar use.
9. Certification has many similarities to development permits, which were decisively rejected by the recent Report of The Planning Act Review Committee.<sup>92</sup>

## Conclusion

Municipal certification of solar collector sites has several advantages, particularly for the protection of individual and widely separated solar users outside solar zones and in existing builtup areas. It also has potential as a short-term measure, pending the acceptance of solar zones.

Thus, although its cost and administrative complexity make it unattractive as a general solution for the protection of solar rights, it could be a useful supplementary or interim power for municipalities to use at their discretion. Enabling legislation would be required for this purpose.

(X)

MUNICIPAL ACQUISITION OF SOLAR RIGHTS

Expropriation of solar rights for municipal purposes (e.g. to heat a municipal pool) may be possible today and certainly would be authorized if solar rights were defined as an interest in land by the legislation discussed in Chapter III. However, municipal expropriation or purchase of solar rights for private use would require special enabling legislation. In particular, the use of the state's coercive power and/or public funds for private benefit would require express authorization.

The key difference between zoning and municipal acquisition of solar rights is the payment of compensation to the landowner burdened by the right. Because of this, it is assumed that solar rights to only a limited number of properties would be acquired. This compensation would probably be recovered on a local improvement basis, that is, assessed to the benefited properties on an annual basis representing a multiple (e.g. 20) year pay-back with interest. Transferable development rights are another potential mechanism for meeting such costs.

Expropriation would be subject to the normal protections of The Expropriation Act, including a public hearing and arbitration of compensation by The Land Compensation Board.

Advantages of Municipal  
Acquisition of Solar Rights

1. All potential solar users in the benefitted properties would be assured of legal access to sunlight and the nature and extent of their right would be defined.

Both new and retrofit applications could be protected by such a right.

2. The expense of the right to the solar user would be amortized over a number of years and shared by a number of owners. Lawyers would not be required by the individual homeowners.
3. Unnecessary and/or excessive restrictions would, presumably, be avoided because of their resulting cost. This cost would also provide an inducement to optimal location and design of collectors so as to minimize the solar right required.
4. The payment of compensation ought to provide adequate redress to most restricted landowners. Even in the event of expropriation of rights, neighbouring landowners would, in general, be fairly treated because of their opportunity for a hearing and the arbitration of compensation. However, expropriation is generally perceived by many landowners as more unfair than other processes, such as zoning.
5. The municipal role would permit integration of the solar rights with municipal land use planning and budgeting.

#### Disadvantages

1. The major disadvantages with this approach are its expense to the municipality and to the potential solar user, and the dubious political wisdom of using the power of the state to benefit a few individuals.

2. The heavy-handedness of expropriation and the fact that some owners uninterested in solar use could also be assessed with a portion of the cost of the right would, undoubtedly, generate strong opposition.
3. If initiated locally, long delays and much red tape would be involved in collecting neighbouring land-owners' signatures for a petition, obtaining council's concurrence and proceeding through the expropriation process.

### Conclusion

Municipal solar rights acquisition could find limited application where, for example, a single large development threatened to shadow a large area of potential or actual solar use. However, the same result could usually be accomplished by alternative mechanisms such as zoning.

### NATURAL SOLAR RIGHTS

All landowners in Ontario, whether or not they have a solar collector, could by statute be granted a "natural" solar right, although exceptions would be desirable for those shadowed by existing buildings or by buildings in prescribed high-rise areas. Municipalities would be prohibited from granting building permits for any structure which would shadow any property without the consent or compensation of the shadowed owner.<sup>93</sup>

A variation of this approach has been adopted in Japan,<sup>94</sup> where sunlight is considered to be a fundamental human right. Several Japanese courts have granted injunctions to prevent the construction of buildings which would completely shade neighbouring homes; in other cases, hundreds of thousands of yen have been awarded as compensation for the psychological impact of the loss of sun. Since November 1, 1977, this jurisprudence has been supplemented by an amendment to the Building Standards Act. The Act now authorizes municipalities to prohibit buildings over a certain height (eg. 10 meters) which cast more than a prescribed number of hours of shade on homes in residential areas.

Such a major reordering of land use priorities is unlikely to be accepted by the public in Ontario, and would add significantly to the cost and complexity of most urban construction.

### Conclusion

Natural solar rights are unlikely to become a reasonable alternative at least until solar use has become far more widespread and is a significant contribution to Ontario's energy supply.



FURTHER REVIEW

Further review and discussion must now take place to determine which, if any, of the above mechanisms should be adopted in Ontario. Such discussion must focus both on the effectiveness of the mechanisms as incentives to solar energy use, and the effects solar access could have on other aspects of energy conservation and land use.

It is important to stress that access to sunlight is only one of many factors which can influence the degree of solar use in Ontario. Some steps to encourage solar use have already been taken by the Ontario Government, such as dissemination of information, funding of demonstration projects, and removal of sales tax on solar hardware; others are now under review. The questions raised by this paper can only be answered in this larger context and in the light of Ontario's energy policy as a whole.

COMMENTS

Your contribution to this discussion will be much appreciated. Please detach and complete the comment sheet on page 89, & return it to:

"Solar Access"  
Ontario Ministry of Energy  
56 Wellesley Street West  
Toronto, Ontario  
Canada  
M7A 2B7

## APPENDIX I - JURISDICTION

### Federal Jurisdiction

The mechanisms discussed in this paper are for provincial, municipal and private implementation, since protection of solar rights is not within federal jurisdiction. Because of their localized nature and heavy impact on land use, solar rights are clearly a matter of "property and civil rights" which are "local within the province".<sup>95</sup> No federal legislation for this purpose could be justified under the "peace, order and good government" power, since solar rights can be adequately dealt with at the provincial or municipal level and have no interprovincial or international implications.

The sole avenue now apparent for federal legislative action in this direction is the newly-asserted power to regulate air pollution.<sup>96</sup> If constitutional, this power could be used to maintain air quality sufficient to minimize interference with atmospheric penetration of insolation.

### Municipalities

Much of the focus in the discussion above has been on mechanisms at the municipal level, because of the importance of coordinating solar rights with existing municipal responsibilities, such as land use, planning, and development control and their important developing role in energy conservation.<sup>97</sup> However, it is recognized that, in addition to enabling legislation, municipalities might require extensive provincial assistance to develop and implement such mechanisms, particularly in the early years when solar energy use is still unfamiliar.

Such assistance could include,

- 1) explanations of the potential and importance of solar energy to the municipality and its residents
- 2) analysis of the impact on the municipality and local utilities of increased solar use
- 3) dissemination of information on solar technology
- 4) model energy statements for official plans
- 5) model solar zoning by-laws
- 6) guidelines for evaluating the impact of shadows which would be cast by proposed developments, and
- 7) guidelines for granting variances and building permits to permit or protect solar use.

APPENDIX II - ORIENTATION AND STUDY

The following brief description is intended to assist the reader in visualizing the impact of "rights to light" on land use patterns in Ontario.

Typical suburbs have not been planned with energy criteria in mind. In addition to features which impede energy conservation, the orientation of the houses varies and many lack suitable southern exposures for the collection of solar energy.

Fig. 1

(Layout of Typical Suburb Showing Mixed Orientation)





In many cases, houses are so placed as to unnecessarily shade their neighbours. However, new subdivisions could be designed to permit substantial use of solar energy by a large proportion of the homes.

One of the key features of such subdivisions would be freedom from shade on the collector surface at appropriate times. For winter heating, the period of useful sun is approximately 9:00 am to 3:00 pm (solar time), and a collector should be free from shade for as much as possible of this period.

Unfortunately, as indicated in Fig. 2, the shadow cast by even a small house is considerable at 9:00 am and 3:00 pm (solar time) in the winter. Furthermore, the shadow moves from west to east in the course of the day, as shown in Fig. 3, although its length decreases at midday (Fig. 4).

Fig. 2

(Aerial View of Shadow Cast by Typical Subdivision House)

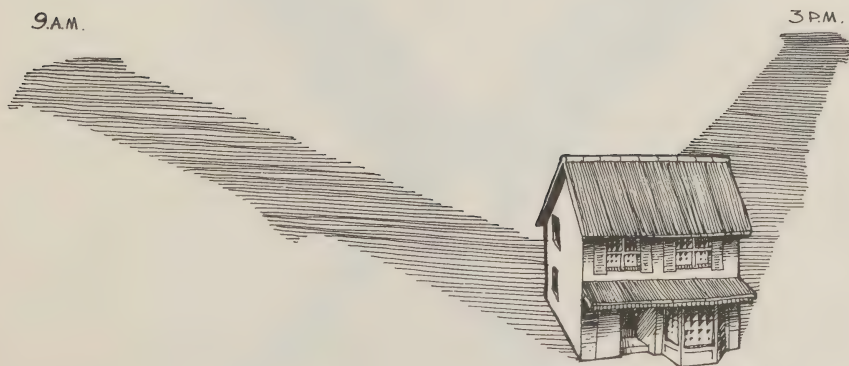


Fig. 3

(Elevation of Shadow Cast by typical Subdivision House:  
December 21, 45° Latitude)

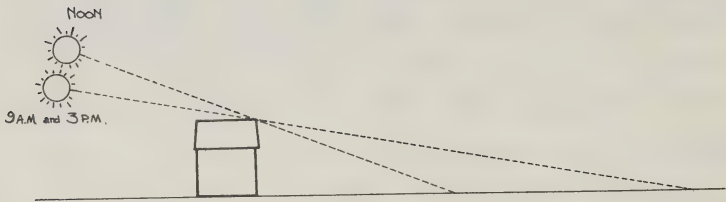
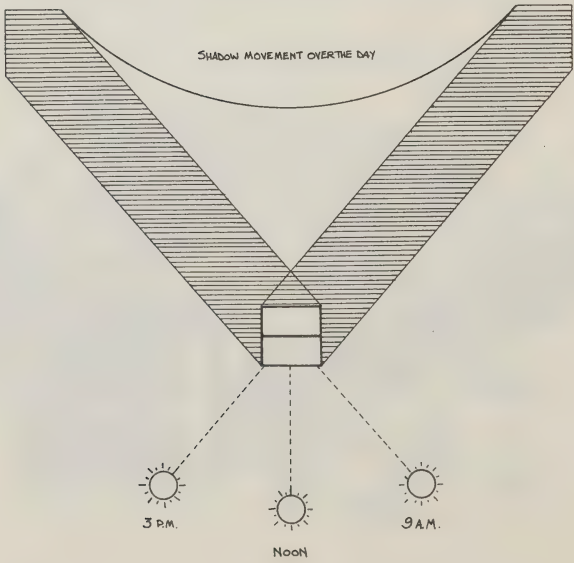


Fig. 4

(Plan of Shadow Cast by Typical Subdivision House:  
December 21, 45° Latitude)



It is simple to calculate the shadow of an object for a specific day, time and location. For example, at  $45^{\circ}$  north latitude (i.e., Huntsville), the shadow length of a vertical object will be about three times its height at solar noon on December 21. On June 21, the shadow length of the same object will be about one half its height.

For times other than solar noon, shadow lengths increase. At 9:00 am (solar time) on December 21, the shadow length of the same object will be more than seven times its height.

The shade cast by vegetation can also seriously impede solar use. Figs. 5 and 6 indicate the relative length of shadows cast by trees on December 21 in a southern Ontario location. The date of December 21 was chosen for these sketches as this is the date when shadows will be the longest. Unfortunately, this is also the time when the greatest amount of energy may be needed for typical winter uses such as space heating. Shadows are smaller, and, therefore, less of a problem, for summer uses such as pool heating.

Fig. 5

(Shadow cast by a Spruce Tree (80' high, 30' wide) on  
December 21,  $45^{\circ}$  Latitude)



Fig. 6

(Shadow Cast by a Maple Tree (80' tall, 40' wide)  
on December 21, 45° Latitude)



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1. Only direct radiation is discussed, although up to 40% of the total solar energy received by a collector may be from diffuse or reflected sunlight. (Orgill, J.: Solar Heating Simulation Study, M.A.Sc. thesis, University of Waterloo, May, 1977.) The exposure to the sky necessary to protect direct insolation, together with the vertical control of airspace discussed below, is at least adequate to protect a reasonable amount of diffuse light. Indeed, some diffuse light is received even when the direct path to the sun is blocked.

Reflected sunlight external to the collector system is also not discussed. The proportion of total energy received by a collector from reflected sunlight is highly variable, ranging from zero for a horizontal collector up to 25% for a vertical collector under ideal conditions, i.e. adjacent to a uniform fresh snow cover on an infinite view horizontal plane. However, reflected sunlight normally contributes less than 10% of the energy received by a collector. This limited contribution cannot justify the extreme restrictions which would have to be imposed on neighbouring land-owners to preserve a reflective surface, i.e. unobstructed level ground, as this would prevent all development.

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2. No attempt is made, however, to define the quantity of insolation which is 'reasonable'. Technical studies are necessary to determine: (a) the exposure to direct insolation which is actually required for efficient collector operation, (b) the extent of shadowing in typical urban areas, (c) the impact on neighbouring property of the solar rights necessary for various types of solar systems, and (d) solar design principles for buildings and urban areas.

It has been suggested, for example, that on December 21, the winter solstice day, the amount of sunlight received before 9:00 a.m. and after 3:00 p.m. is less than 10% of the incident sunlight of the day and, therefore, can reasonably be obstructed with only a minimal loss in collector efficiency. (Eisenstadt & Utton, "Solar Rights and their Effects on Solar Heating and Cooling", (1976) 16 Natural Resources Journal 863) Similarly, a collector may be oriented as much as 30 degrees away from due south and still reach 90% of its optimum efficiency; this would provide a degree of flexibility in siting collectors so as to minimize the impact on others. (Sesaki, T., Solar Heating Systems for Canadian Buildings, Building Research Note #104, National Research Council, Ottawa, December, 1975)

It is also possible that solar rights may be less difficult to protect than has been feared, as typical urban low-rise areas, e.g. suburban subdivisions and industrial parks, may have roof areas free from shade. This is the preliminary conclusion of some municipalities in southern California; in fact, Palm Springs, which had a solar protection by-law, has now repealed it in the belief that adequate protection is provided by its existing zoning height limits. (Los Angeles City Planning Department, Report on Property Owner's Right to Sunlight, City Plan Case #26110, January 13, 1977, page 16)

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3. Anger and Honsberger, Canadian Law of Real Property, 1959, p. 1002; Megarry and Wade, Law of Real Property, 4th ed., 1975, p. 815, 875; Clerk & Lindsell on Torts, 14th ed., (London, 1975), p.839; Cheshire's Modern Law of Real Property, 12th ed., (London, 1976).
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4. Clerk & Lindsell, p.841; Fleming, Law of Torts, 4th ed., 1971, p.338; see also, Gevurtz, "Obstruction of Sunlight as a Private Nuisance", (1977) 65 California Law Review 94 at p.97.
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5. Fleming, p.343; Gevurtz, p.98.
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6. Bury v. Pope, (1586) 78 Eng.Rep. 373; Fontainebleu Hotel v. Forty-Five Twenty-Five Inc., (9859), 114 So. 2d 357
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7. Gevurtz, p.102.
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8. Megarry and Wade, p. 875; Tapling v. Jones, (1865) 11 H.L.C. 290
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9. Gevurtz, p.100; Bersohn, "Securing Solar Energy Rights: Easements, Nuisance or Zoning?", (1976) 3 Columbia Journal of Environmental Law 112, at p.121; but see, contra, G. Reitze, "A Solar Law Zoning Guarantee", (1976) 3 Washington University Law Quarterly 375, at p.390.
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10. The Expropriations Act, R.S.O.1970, c.154, s.13.
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11. e.g. Bailey v. Ottawa-Carleton, (1976) 9 Land Compensation Reports 342.



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13. United States: Muhlker v. N.Y. and Harlem Railway, (1904) 197 U.S. 544; see also, Eisenstadt and Utton, supra #2; Japan: Kubricky, "Japanese Sunshade Law", December, 1976, Alternate Sources of Energy 41.
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14. See note 3.
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15. *ibid.*
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16. Implied easements can arise under so few, special circumstances that they are not of general importance. For example, implied easements for light can arise over one property for the benefit of another only if both were once owned by the same owner. If one were sold with a house containing windows overlooking a vacant lot retained by the vendor, neither he nor any subsequent owner of the vacant lot could materially diminish the light coming to those windows. (Simpson v. Eaton, (1907) 15 O.L.R. 161; Ruetsch vs. Spry, (1907) 14 O.L.R. 233)

There may also be an implied easement for some light and air over an abutting public highway (as in Wall v. Eisenstadt, (1931) 154 A. 651).

Prescriptive easements can no longer be obtained in Ontario. See below p.20, Part IV.

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17. See Anger and Honsberger, supra #4, p.1001-1005; Cheshire's Modern Law of Real Property, 12th ed., 1976, p.551-553; Megarry and Wade, p.815 and 861-878.
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18. Potts v. Smith, (1868) L.R.6, Eq.311; Levet v. Gas Light & Coke Co., (1919) 1 Ch.24; Roberts v. Macord, (1832) 174 E.R.78; Easton v. Isted, (1903) 1 Ch.405; Clerk & Lindsell, p.839.
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19. Colls v. Home and Colonial Stores Ltd., (1904) A.C.179.

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20. Ambler v. Gordon, (1905) 1 K.B.417; Higgins v. Betts, (1905) 2 Ch.210.

Although the courts do recognize that higher standards of lighting are generally expected for comfort in modern times (e.g. Ough v. King, (1967) 1 W.L.R.1547), solar collectors cannot at present be reasonably classified as an 'ordinary use'.

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21. Cheshire's Modern Law of Real Property, p.524.

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22. Clerk & Lindsell, p.841; Megarry and Wade, p.876.

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23. Megarry and Wade, p.877.

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24. Cheshire's Modern Law of Property, p.524.

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25. See Wright, Law of Airspace, (1968) p.4.

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26. e.g., British Columbia Air Space Titles Act, S.B.C.1971, c.2.

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27. "Air and space are not susceptible of ownership and fall in the category of res omnium communis..." Lacroix v. The Queen (1954) 4 D.L.R.470 (S.C.C.) p.476. See also, H. Smart, "Lacroix v. The Queen".

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28. e.g., Toronto Transit Commission and Principle Investments Limited, registered in both Toronto Land Titles and Registry Offices #50387EM. A fee simple estate in air-space is held by Townsview Properties Limited, registered in Toronto Land Titles Office as #C.T.145485.

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29. Blackstone, Commentaries; 18, (Lewis ed., 1902: London)

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30. Subject to a privilege of reasonable flight by aircraft and to the embryonic law of outer space. (Cheng, "Problems of Space Law", (1960) 7 The New Scientist 1256; Pepin, Eugene: Problemes Juridiques de l'Espace, 1976, 6 McGill Law Journal 30).

It is also uncertain whether this exclusive use of air-space gives the surface owner any right to the air itself, e.g. to freedom from air pollution.

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31. e.g. Bersohn, Securing Solar Energy Rights: Easements, Nuisance or Zoning?, (1976) 3 Columbia Journal of Environmental Law 112; Gevurtz, Obstruction of Sunlight as a Private Nuisance, (1977) 65 California Law Review 94; L. Kressel, Preservation of View Limitations as to Height of Improvements and Architectural Control in Uniform Long Term Lease, (1974) 5 Environmental Law 183.

Some judicial support for the possibility was given by Motherwell v. Motherwell, (1977) 73 D.L.R. (3d) 62 (Alb.C.A.) which held that new categories of private nuisance can be developed by the courts to take account of new factors in society, such as the telephone.

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32. McGarry and Wade, "Law of Real Property", p.355.

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|-----|--------------|------|-------------|
| 33. | Colorado     | 1975 | s.95, c.326 |
|     | Kansas       | 1977 | H.B.2096    |
|     | North Dakota | 1977 | H.B.1069    |
|     | Illinois     | 1977 | S.B.944     |
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|-----|--------------|------|----------|
| 34. | Arizona      | 1977 | S.B.1087 |
|     | Florida      | 1977 | H.B.1566 |
|     | Illinois     | 1977 | H.B.1512 |
|     | Pennsylvania | 1977 | H.B.728  |
|     | Utah         | 1977 | H.B.349  |
|     | Washington   | 1977 | H.B.360  |
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35. Committee of adjustment consent was obtained to the recent agreement between Eaton (Fairview) and Holy Trinity Church, which guaranteed a specified number of hours of sunlight to Trinity Square despite the development Of Eaton Centre. See instrument #B-378560, Toronto Land Titles Office.
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36. However, the obstacle could be overcome if horizontally defined airspace was recognized as a severable type of real property (see s.29(1a) Planning Act). This is not certain in Ontario (see p.5).



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37. "In all of the Provinces except for Newfoundland, Prince Edward Island and in the cities and unincorporated towns of Nova Scotia, the Common Law Right to acquire by prescription the right to the access and use of light or air has been abolished: British Columbia, Land Registry Act, R.S.B.C.1970, c.s.38A; Alberta, Limitation of Actions Act, R.S.A.1955, c.177, s.49; Saskatchewan, Land Titles Act, R.S.S.1953, c.108, s.69; Manitoba, Law of Property Act, R.S.M.1970, c.190, s.28; Ontario, Limitations Act, R.S.O.1970, c.246, s.33; New Brunswick, Easements Act, R.S.N.B.1952, c.67, s.8; Nova Scotia, Statute of Limitations, R.S.N.S. 1967, c.168, s.32(2); Northwest Territories, Limitation of Actions Act, R.O.N.W.T.1956, c.59, s.48. In Nova Scotia it is only the right to acquire such easements in any city or unincorporated town which has been abolished. Prescriptive easements to light or air which had been acquired in British Columbia, Manitoba, Ontario, New Brunswick and in the cities and unincorporated towns of Nova Scotia, prior to a certain date were not invalidated. The only prohibition in these provinces was the right to acquire such easements by prescription in the future. Thus prescriptive rights to the access and use of light and air acquired prior to the following dates in the following provinces are still valid: British Columbia-March 12, 1906; Manitoba-July 7, 1883; Ontario-March 5, 1880; New Brunswick-April 10, 1875; Nova Scotia-April 15, 1953 (for cities and unincorporated towns).

As the right to an unobstructed access of light or air, through an aperture is lost by a material alteration to it (*West Flamborough v. Pretuski*, (1931) 1 D.L.R. 520, 66 O.L.R.210) or on destruction of the structure containing the aperture, there can only be a few remaining easements of light or air acquired by prescription in these provinces which have passed legislation prohibiting the right to acquire by prescription new rights to the access of light or air. In the Northwest Territories, Alberta and Saskatchewan there can be no prescriptive easements for light or air. For in these jurisdictions not only was the right to acquire such easements in the future prohibited but all such rights so acquired in the past are abolished."

Anger and Honsberger, p.1005, statute citations varied by the author.

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38. See, for example, *Fontainebleu v. Forty-Five, Twenty-Five, Inc.* (1959), 114 S.(2d) 357.

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39. The Rights of Light Act, 1959, 7&8 Eliz.2, c.56.

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40. Cheshire's, p.541; Megarry and Wade, p.861.

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41. The English Rights of Light Act, 1959, does not mitigate this serious disability but, on the contrary, exacerbates it by permitting a neighbouring landowner to interrupt the 20-year period merely by registration of a notice, without actually constructing an obstruction. The Act was originally motivated by the extensive bombing damage in Britain in World War II which, coupled with stringent wartime and postwar building controls, had resulted in the flow of light over many previously developed properties. In order to facilitate rebuilding, prevention of acquisition of permanent rights to this light was essential. Registration of the "notional" obstruction, therefore, guarantees owners a further 20 years to develop their property.

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42. Megarry and Wade, p.847.

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43. See discussion of easements above, p.4.

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44. e.g. Reitze, "A Solar Rights Zoning Guarantee"; M. White, "The Allocation of Sunlight: Solar Rights and the Prior Appropriation Doctrine", 1976, 47 University of Colorado Law Review 421.
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45. See La Forest, "Water Law in Canada; the Atlantic Provinces", (1973) Ch.9: Riparian Rights.
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46. Private communication from the Hon. Mr. Justice Zelling, Chairman of the South Australia Law Reform Commission, Sept. 1, 1977.
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47. Reitze, "A Solar Rights Zoning Guarantee", p.380.
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48. *ibid*, p.382.
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49. White, p.437.
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50. Reitze, p.382.
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51. White, p.441.
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52. *ibid*, p.441 and 445.
53. Proposed: Maryland (1977) H.B.715; Missouri (1977) H.B.715; Washington (1977) S.B.2609. Passed: New Mexico (1977) H.B.294, New Laws c.169.
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54. *ibid*, p.428.
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55. *ibid*, p.447.

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56. Cheshire's, p.593; Megarry and Wade, p.775.

57. Holy Trinity Church, Toronto. See Footnote 35.

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58. Although it is probably necessary to enforceable "building scheme" restrictions that all lots be restricted to some extent and that all lots benefit from the restrictions, it is not necessary for the restrictions and benefits to be uniform. (Megarry and Wade, p.774.) Thus, it should be permissible (although less desirable) to design a subdivision in which only a portion of the lots have optimum solar access, while others are shaded to some degree. Arguably, even the partially shaded lots benefit in that they are not completely shaded, as might occur without restrictions.

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59. See discussion of site plan by-laws, below p.47.

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60. Cheshire's, p.593; Megarry and Wade, p.775.

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61. e.g. Palos Verdes, California home association purchase agreement; see also, Coral Gables, Florida 1977 amendment to ordinance #1525.

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62. H. Foster and D. Sewell, Solar Home Heating in Canada - Why Not?, (Ottawa, 1977), p.223.

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63. See, for example, M. Eisenstadt and A. Utton, "Solar Rights and Their Effect on Solar Heating and Cooling", (1976) 16 Natural Resources Journal, 363; W. Thomas, A. Miller and R. Robbins, "Legal Issues Related to Use of Solar Energy Systems", draft of the forthcoming report for the American Bar Foundation; Environmental Law Institute, "Legal Barriers to Solar Heating & Cooling of Buildings", 1977, report for the U.S.A. Energy Research and Development Administration; Moskowitz, "Legal Access to Light: The Solar Energy Imperative", 9 Natural Resources Lawyer 177; Wilson, Jones, Morton & Lynch, Report on Santa Clara for ERDA, #SAN/1083-76/1, Sept. 1976.

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64. Oregon: 1975 Laws of Oregon, c.153; Maryland: 1976 Laws of Maryland c.509.

65. (1977) H.B.2066

66. (1977) H.B.4494 to 4496.

67. (1977) S.B.944.

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68. Colorado Springs, Colorado, 1968 Code, c.XIV (Zoning), as amended.  
Largo, Florida, Ordinance #77-940.  
Albuquerque, New Mexico, Council Bill M-22.  
Los Alamos, New Mexico, Zoning Ordinance V-C, #173, (1977).

69. Los Angeles Planning Department, City Plan Case #26110, January 13, 1977.

70. City of Ottawa, Res. 1977; Metropolitan Toronto Council, September 21, 1976.

71. Scotland

72. City of Halifax Zoning By-Law, May 11, 1950, as amended August 15, 1974.

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73. i.e., existing buildings or structures which exceed the height or other limitations imposed by the solar by-law.



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74. Zoning Resolution of the City of New York, #74-95, as amended 1976, Calendar #12 of the N.Y. Board of Estimate, Feb. 5, 1976, #166, R-615, p.129.

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75. Bersohn, "Securing Solar Energy Rights: Easements, Nuisance or Zoning?", (1976) 3 Columbia Journal of Environmental Law 112, at p.145.

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76. R.S.O.1970, c.349.

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77. Preservation of light and air is a goal of zoning. See decisions by the Ontario Municipal Board, A762121, A761345, A761744, and A761404.

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78. See p.54.

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79. The Planning Act. s.19.

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80. Connecticut: S.B.652; Oregon: H.B.2036.

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81. See, for example, Thomas Miller & Robbins.

Certain writers have proposed that municipalities should require solar use in so-called 'Mandatory Solar Use Districts' under their power to regulate "the character and use" of buildings. As such action is not directly related to protecting solar access and, in any event, seems premature in Ontario, it is not considered in detail in this paper.

Special enabling legislation would probably be required for this purpose in Ontario.

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82. A useful precedent for this is the Neighbourhood Improvement Program.

84. (Section VII: 3.)

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83. See below, p.43.

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84. U.S. (1977) S.B.985, H.R.259, H.R.5739; Minnesota (1976) S.B.1807; New York (1977) A.1706, S.607; Virginia (1977) H.B.2014, S.B.854 (protection from variances only).

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85. See above, p.41.

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86. See, for example, the solar rights ordinances of Los Alamos and Albuquerque, New Mexico.

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87. Colorado (1977) S.B.68; New Mexico (1977) H.B.325.

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88. Certification powers could, as an alternative, be granted to a provincial agency. However, in light of the current Ontario policy of avoiding unnecessary interference with municipal responsibilities such as land use planning, municipal site certification seems more plausible.
89. Massachusetts (1977), S.B.296; Rhode Island (1977), S.1242.
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90. A. Reitze proposes a variant of this approach which would entitle the certificate holder to protection only from changes in land use foreseeable at the time of application. Thus, no construction possible under existing or impending zoning would be restrained. See: Protecting a Place in the Sun, (1976) 18 Environment #5, 2.
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91. Costonis, "The Chicago Plan: Incentive Zoning and the Preservation of Urban Landmarks", (1972) 85 Harvard Law Review 574; Costonis, "Fair Compensation and the Accommodation Power", (1975) 75 Columbia Law Review 1021.
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92. Toronto, April, 1977.

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93. Such a Bill has been proposed in New York (1977)  
S.4105, A.5404.
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94. Japanese Building Standards Act, Article 56-2; "The Jurist", January, 1974, special issue on sunshine disputes; T. Wada, "Sunshade Regulations by Partial Amendment of the Building Standards Act of Japan", Japan Ministry of Construction; Deputy Minister of Construction, "Defrayal of Expenses for Damages Caused By Shade Cast By New Public Facilities", February 23, 1977.



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95. British North America Act, s.92.

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96. The Clean Air Act, S.C.(1971) 19-20 Eliz.II, c.47.

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97. c.f. Bureau of Municipal Research, "What Can Municipalities do about Energy?", Toronto, March, 1978.



Ontario

89.

Ministry of  
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COMMENT SHEET

Perspectives on Access to Sunlight

- 1) Did you find this paper useful?  
If so, in what way? Yes \_\_\_ No \_\_\_
- 2) In your opinion, should access  
to sunlight be a high priority  
in Ontario? Yes \_\_\_ No \_\_\_
- 3) Do you consider other factors to be  
of equal or higher importance in  
development of solar energy in  
Ontario? If so, please list. Yes \_\_\_ No \_\_\_
- 4) Do you think the Ontario Government  
should take any action to assure  
legal access to sunlight? Yes \_\_\_ No \_\_\_
- 5) Indicate the mechanisms listed in the  
paper you feel would be best for this  
purpose.

90.

- 6) Give your reasons for choosing the mechanisms listed in (5).

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- 7) Please indicate any major issues you feel have been omitted from the paper.

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- 8) Do you have any other comments?

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- 9) Are you a member of any solar energy interest group?

Yes \_\_\_ No \_\_\_

If so, please specify \_\_\_\_\_

- 10) Are you seriously considering a solar application?

Yes \_\_\_ No \_\_\_

If so, what type? \_\_\_\_\_

Name \_\_\_\_\_ Occupation \_\_\_\_\_

Employer \_\_\_\_\_ Related

Mailing Address \_\_\_\_\_ Experience \_\_\_\_\_

(eg. land use planning, solar energy use)

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